

Addendum to *Characterization and reduction of artifacts in limited angle tomography*

Jürgen Friel^{1,2,3}, Eric Todd Quinto³

¹Zentrum Mathematik, M6, Technische Universität München, Germany

²Institute of Computational Biology, Helmholtz Zentrum München, Germany

³Department of Mathematics, Tufts University, Medford, MA 02155, USA

E-mail: juergen.friel@helmholtz-muenchen.de

E-mail: todd.quinto@tufts.edu

After [1] was published, the authors learned about a related article, [2] in which the theory of pseudodifferential operators with singular symbols is developed. The author proves a wavefront set characterization of added singularities for the limited angle Lambda operator on generalized Radon transforms, a result we prove in the classical case. He describes an artifact reduction method similar to ours but using non- C^∞ functions, and he describes how to find jump discontinuities.

The perspective in our article is different. We start with the tomography problem and provide elementary, self-contained microlocal analysis to explain these visible and added singularities for limited angle FBP and Lambda CT. We give the full symbols of each of our pseudodifferential operators and, in addition, prove that our artifact reduction methods preserve most of the visible singularities and do not add artifacts.

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References

- [1] J. Friel and E. T. Quinto. Characterization and reduction of artifacts in limited angle tomography. *Inverse Problems*, 29(12):125007, 2013.
- [2] A. Katsevich. Local Tomography for the limited Angle Problem. *Journal of mathematical Analysis and Applications*, 213:160–182, 1997. Articul no. AY9775412.